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Sequence Listing was accepted with existing errors.

See attached Validation Report.

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Reviewer: Anne Corrigan

Timestamp: Tue Aug 14 11:48:20 EDT 2007

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Application No: 10583089 Version No: 1.1

**Input Set:**

**Output Set:**

**Started:** 2007-08-14 11:47:24.481  
**Finished:** 2007-08-14 11:47:25.386  
**Elapsed:** 0 hr(s) 0 min(s) 0 sec(s) 905 ms  
**Total Warnings:** 0  
**Total Errors:** 1  
**No. of SeqIDs Defined:** 44  
**Actual SeqID Count:** 44

Error code	Error Description
E 257	Invalid sequence data feature in <221> in SEQ ID (23)

## SEQUENCE LISTING

<110> FIEBIG, HELMUT  
NANDY, ANDREAS  
CROMWELL, OLIVER

<120> DNA SEQUENCE, AND RECOMBINANT PREPARATION OF GROUP 4  
MAJOR ALLERGENS FROM CEREALS

<130> MERCK-3178

<140> 10/583,089  
<141> 2006-06-15

<150> PCT/EP04/013664  
<151> 2004-12-01

<150> DE 10359351.9  
<151> 2003-12-16

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<170> PatentIn Ver. 3.3

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caa gcc gcc gcg gcc tac gcg ccc gtg cct gcc aag gcg gac ttc 96  
Gln Ala Ala Ala Ala Tyr Ala Pro Val Pro Ala Lys Ala Asp Phe  
20 25 30

ctc gga tgc ctc atg aag gag ata ccg gcc cgc ctc ctc tac gcc aag 144  
Leu Gly Cys Leu Met Lys Glu Ile Pro Ala Arg Leu Leu Tyr Ala Lys  
35 40 45

agc tcg cct gac tac ccc acc gtg ctg gcg cag acc atc agg aac tcg 192  
Ser Ser Pro Asp Tyr Pro Thr Val Leu Ala Gln Thr Ile Arg Asn Ser  
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cgg tgg tcg tcg ccg cag aac gtg aag ccg atc tac atc atc acc ccc 240  
Arg Trp Ser Ser Pro Gln Asn Val Lys Pro Ile Tyr Ile Ile Thr Pro  
65 70 75 80

acc aac gcc tcg cac atc cag tcc gcg gtg gtg tgc ggc cgc cgg cac 288  
Thr Asn Ala Ser His Ile Gln Ser Ala Val Val Cys Gly Arg Arg His  
85 90 95

ggc atc cgc ctc cgc gtg cg	agc ggc ggc cac gac tac gag ggc ctg	336	
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100	105	110	
tcg tac cgg tct gag aaa ccc gag acg ttc gcc gtc gtc gac ctc aac	384		
Ser Tyr Arg Ser Glu Lys Pro Glu Thr Phe Ala Val Val Asp Leu Asn			
115	120	125	
aag atg cgg gca gtg tcg gtc gac ggc tac gcc cgc acg gcg tgg gtc	432		
Lys Met Arg Ala Val Ser Val Asp Gly Tyr Ala Arg Thr Ala Trp Val			
130	135	140	
gaa tcc ggc gcg cag ctc ggc gag ctc tac tac gcg atc gcc aag aac	480		
Glu Ser Gly Ala Gln Leu Gly Glu Leu Tyr Tyr Ala Ile Ala Lys Asn			
145	150	155	160
agc ccc gtg ctc gcg ttc ccg gct ggc gtc tgc ccg tcc atc ggc gtc	528		
Ser Pro Val Leu Ala Phe Pro Ala Gly Val Cys Pro Ser Ile Gly Val			
165	170	175	
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Gly Gly Asn Phe Ala Gly Gly Phe Gly Met Leu Leu Arg Lys Tyr			
180	185	190	
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Gly Lys Leu Leu Asp Lys Ser Ser Met Ser Ala Asp His Phe Trp Ala			
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Val Lys Leu Leu Pro Val Pro Pro Thr Val Thr Val Leu Lys Ile Pro			
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Val Gly Pro Ala Leu Pro Gly Asp Leu Met Ile Arg Ile Ile Leu Ala			
275	280	285	
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Gly Asn Ser Ala Thr Phe Glu Ala Met Tyr Leu Gly Thr Cys Ser Thr			
290	295	300	
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Leu Thr Pro Leu Met Ser Ser Lys Phe Pro Glu Leu Gly Met Asn Pro			
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Ser His Cys Asn Glu Met Ser Trp Ile Lys Ser Ile Pro Phe Ile His			
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340	345	350	
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Lys Pro Val Trp Glu Gln Ile Phe Gly Trp Leu Val Lys Pro Gly Ala			
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Glu Ala Ala Thr Pro Phe Pro His Arg Gln Gly Val Leu Phe Asn Ile			
405	410	415	
cag tac gtc aac tac tgg ttc gct gag tca gcc ggc gcg gcg ccg ctg			1296
Gln Tyr Val Asn Tyr Trp Phe Ala Glu Ser Ala Gly Ala Ala Pro Leu			
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Gln Trp Ser Lys Asp Ile Tyr Lys Phe Met Glu Pro Tyr Val Ser Lys			
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Asn Pro Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly Arg			
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Asn Glu Val Val Asn Asp Ile Ser Thr Tyr Ser Ser Gly Lys Val Trp			
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Gly Glu Lys Tyr Phe Lys Gly Asn Phe Gln Arg Leu Ala Ile Thr Lys			
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Gly Lys Val Asp Pro Gln Asp Tyr Phe Arg Asn Glu Gln Ser Ile Pro			
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50 55 60

Arg Trp Ser Ser Pro Gln Asn Val Lys Pro Ile Tyr Ile Ile Thr Pro  
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Thr Asn Ala Ser His Ile Gln Ser Ala Val Val Cys Gly Arg Arg His  
85 90 95

Gly Ile Arg Leu Arg Val Arg Ser Gly Gly His Asp Tyr Glu Gly Leu  
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Glu Ser Gly Ala Gln Leu Gly Glu Leu Tyr Tyr Ala Ile Ala Lys Asn  
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195 200 205

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245 250 255

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Val Gly Pro Ala Leu Pro Gly Asp Leu Met Ile Arg Ile Ile Leu Ala  
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Gly Asn Ser Ala Thr Phe Glu Ala Met Tyr Leu Gly Thr Cys Ser Thr  
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305 310 315 320

Ser His Cys Asn Glu Met Ser Trp Ile Lys Ser Ile Pro Phe Ile His  
325 330 335

Leu Gly Lys Gln Asn Leu Asp Asp Leu Leu Asn Arg Asn Asn Thr Phe  
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Lys Pro Val Trp Glu Gln Ile Phe Gly Trp Leu Val Lys Pro Gly Ala  
370 375 380

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Glu Ala Ala Thr Pro Phe Pro His Arg Gln Gly Val Leu Phe Asn Ile  
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Gln Tyr Val Asn Tyr Trp Phe Ala Glu Ser Ala Gly Ala Ala Pro Leu  
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Gln Trp Ser Lys Asp Ile Tyr Lys Phe Met Glu Pro Tyr Val Ser Lys  
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Asn Glu Val Val Asn Asp Ile Ser Thr Tyr Ser Ser Gly Lys Val Trp  
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Gly Glu Lys Tyr Phe Lys Gly Asn Phe Gln Arg Leu Ala Ile Thr Lys  
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Cys His Ala Ala Val Ser Tyr Ala Ala Pro Val Pro Ala Lys Glu

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gac ttc ttc gga tgc ctg gtg aag gag ata ccg gcc cgcc ctc tac 144

Asp Phe Phe Gly Cys Leu Val Lys Glu Ile Pro Ala Arg Leu Leu Tyr

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Ala Lys Ser Ser Pro Ala Phe Pro Thr Val Leu Ala Gln Thr Ile Arg

50 55 60

aac tcg cgg tgg tcg ccg cag agc gtg aag ccg ctc tac atc atc 240

Asn Ser Arg Trp Ser Ser Pro Gln Ser Val Lys Pro Leu Tyr Ile Ile

65 70 75 80

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Thr Pro Thr Asn Ala Ser His Ile Gln Ser Ala Val Val Cys Gly Arg

85 90 95

cgg cac ggc gtc cgc atc cgc gtg cgg agc ggc ggc cac gac tac gag 336

Arg His Gly Val Arg Ile Arg Val Arg Ser Gly Gly His Asp Tyr Glu

100 105 110

ggc ctg tcg tac cgg tcc gag cgc ccc gag gcg ttc gcc gtc gtc gac 384

Gly Leu Ser Tyr Arg Ser Glu Arg Pro Glu Ala Phe Ala Val Val Asp

115 120 125

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Leu Asn Lys Met Arg Ala Val Val Val Asp Gly Lys Ala Arg Thr Ala

130 135 140

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Trp Val Asp Ser Gly Ala Gln Leu Gly Glu Leu Tyr Tyr Ala Ile Ala

145 150 155 160

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Lys Asn Ser Pro Val Leu Ala Phe Pro Ala Gly Val Cys Pro Thr Ile

165 170 175

ggt gta ggc ggc aac ttc gct ggc ggc ttc ggc atg ctg ctg cgc 576

Gly Val Gly Gly Asn Phe Ala Gly Gly Phe Gly Met Leu Leu Arg

180 185 190

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Lys Tyr Gly Ile Ala Ala Glu Asn Val Ile Asp Val Lys Val Val Asp

195 200 205

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Ala Asn Gly Thr Leu Leu Asp Lys Ser Ser Met Ser Ala Asp His Phe

210 215 220

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Trp	Gln	Val	Lys	Leu	Leu	Pro	Val	Pro	Pro	Thr	Val	Thr	Val	Phe	Lys	
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Ile	Pro	Lys	Thr	Val	Gln	Glu	Gly	Ala	Val	Glu	Leu	Ile	Asn	Lys	Trp	
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cag	cta	gtc	gcg	ccg	gcc	ctc	ccc	gac	gac	ctg	atg	atc	cgc	atc	atc	864
Gln	Leu	Val	Ala	Pro	Ala	Leu	Pro	Asp	Asp	Leu	Met	Ile	Arg	Ile	Ile	
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Lys	Ala	Leu	Thr	Pro	Leu	Met	Ser	Ser	Arg	Phe	Pro	Glu	Leu	Gly	Met	
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Ile	His	Leu	Gly	Lys	Gln	Ala	Thr	Leu	Ser	Asp	Leu	Leu	Asn	Arg	Asn	
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Pro	Gly	Ala	Gly	Ile	Met	Val	Met	Asp	Pro	Tyr	Gly	Ala	Ala	Ile	Ser	
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ttc	aac	atc	cag	tac	gtc	aac	tac	tgg	ttc	gac	gag	gca	ggc	ggc	gcc	1296
Phe	Asn	Ile	Gln	Tyr	Val	Asn	Tyr	Trp	Phe	Asp	Glu	Ala	Gly	Gly	Ala	
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Ala	Pro	Leu	Gln	Trp	Ser	Lys	Asp	Met	Tyr	Arg	Phe	Met	Glu	Pro	Tyr	
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